

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
19 May 2005 (19.05.2005)

PCT

(10) International Publication Number
WO 2005/045530 A3

(51) International Patent Classification⁷: G03F 9/00, (7/20, H05G 2/00) (74) Agent: BOOTH, Andrew, Steven; The BOC Group Plc, Chertsey Road, Windlesham, Surrey GU20 6HJ (GB).

(21) International Application Number: PCT/GB2004/004020 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 20 September 2004 (20.09.2004) (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

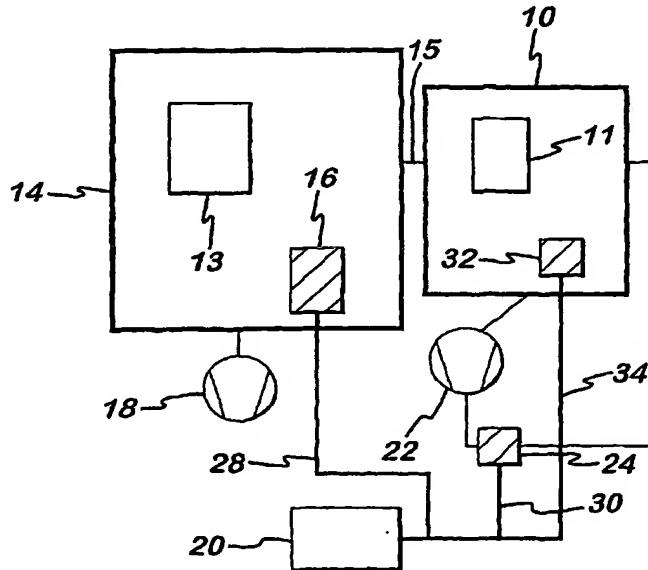
(25) Filing Language: English (26) Publication Language: English

(30) Priority Data: 0324883.8 24 October 2003 (24.10.2003) GB

(71) Applicant (for all designated States except US): THE BOC GROUP PLC [GB/GB]; Chertsey Road, Windlesham, Surrey GU20 6HJ (GB). (72) Inventor; and (75) Inventor/Applicant (for US only): BREWSTER, Barrie, Dudley [GB/GB]; Boc Edwards, York Road, Burgess Hill, West Sussex RH15 9TT (GB).

[Continued on next page]

(54) Title: LITHOGRAPHY APPARATUS WITH EXTREME ULTRAVIOLET LIGHT SOURCE



WO 2005/045530 A3

(57) Abstract: Lithography apparatus comprises a lithography tool (13) housed in a first chamber (14), and a source of radiation (11) at or below ultra violet wavelengths housed in a second chamber (10) connected to the first chamber (14) to enable radiation generated by the source to be supplied to the tool. A cryogenic vacuum pump (16) is provided for at least one, preferably for each, of the chambers (10, 14). A target material, such as xenon, supplied to the source for the generation of radiation is pumped from the second chamber (10), cryogenically purified and re-supplied to the source (11). A cryogenic refrigerator (20) supplies cryogen to the cryogenic purifier (24) and to the cryogenic vacuum pump(s) (16).



Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

1 December 2005